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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,831	07/15/2003	Robert Bennitt	26333.925	9960
23409	7590	03/09/2005	EXAMINER	
MICHAEL BEST & FRIEDRICH, LLP 100 E WISCONSIN AVENUE MILWAUKEE, WI 53202			SAYOC, EMMANUEL	
			ART UNIT	PAPER NUMBER
			3746	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/619,831	Applicant(s) BENNITT ET AL.	
	Examiner Emmanuel Sayoc	Art Unit 3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-33, 36-45 and 48-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29-33, 36-45, and 48-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendments of 12/16/2004. In making the below rejections and/or objections the examiner has considered and addressed each of the applicants arguments. Claims 29-33, 36-45, and 48-53 are pending, and are under current consideration. Claims 29-31, 41, 43, and 53 are amended. Claims 34, 35, 46, and 47 have been cancelled.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 29-34, 36-46, and 48-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennitt (U.S. 5,015,158), and in further view of Leyner (U.S. 849,333) and Snyder (U.S. 351, 665).

With respect to claims 29, 33, 34, 36, 41, 45, 46, 48, 49, and 53 Bennitt in Figure 1, teaches a fluid compressor comprising a housing (12) defining an internal bore (see Figure 3) and an outlet registering with the bore (52). At least one head (shown in Figures 4 and 5) communicates with the bore and is adapted to receive the fluid. An inlet valve assembly (30) disposed in the head (shown in Figures 4 and 5) for permitting the flow of the fluid from the head (shown in Figures 4 and 5) and into the bore (Figure 3) and for preventing the flow of fluid from the bore (Figure 3) to the at least one head (shown in Figures 4 and 5). At least one piston (Figure 2) with a valve (46, 46a) unit is mounted in the bore (Figure 3) for reciprocal movement and adapted to move in one direction to draw the fluid through the valve assembly (30) and into the bore (Figure 3), and to move in the opposite direction to compress the fluid in the bore (Figure 3).

The Bennitt device differs from the claimed invention in that there is no explicit teaching of using a plurality of inlet valve assemblies disposed in the head and angularly spaced around the central axis of the bore.

Leyner in Figure 1, teaches an analogous piston pump with a plurality of inlet valve assemblies (36, 64, 35) disposed in the head (20, 21) and spaced around the central axis of the bore (6). The valve bodies (36) are movable within an inlet chamber (34, 26, 62). One of ordinary skill in the art would have known that plural inlets have advantages in situations where there are plural sources, for example in a multiple fluid

mixing application, or for situations where increased inlet flow is required. Snyder in Figure 1 also teaches an analogous piston pump with angularly, with respect to the central axis of the bore (shown not enumerated), oriented inlet valve assemblies (C) and angularly oriented inlet chambers (H, F). Angularly spacing the valve assemblies was well known as a design choice for streamlining the inlet and outlet flow of fluid in and out of the bore. The angular orientation, as opposed to a tangentially (with respect to the bore axis), reduces flow resistance and turbulence induced by the axially moving piston and fluid.

Therefore it would have been obvious to one of ordinary skill in the art at time the invention was made to modify the Bennitt device by incorporating a plurality of inlet valve assemblies disposed in the head spaced around the central axis of the bore and within an inlet bore, as taught by Leyner, and the angular orientation of the valve assemblies and inlet chambers, as taught by Snyder, in order to allow increased or multiple inlet flow is with minimal flow resistance and turbulence.

It is evident from Leyner Figure 1, that the inlet valves (36) are contained in inlet valve chambers (34), and are interconnected by a fluid passage (26, 62) within the head (20). In cases that the inlets receive the same fluid from a fluid source, it would have been obvious to interconnect the inlet valve chambers, as taught by Leyner in order to simultaneously supply the inlets with fluid, in a manifold manner. Therefore it would have been further obvious to one of ordinary skill in the art at time the invention was made to modify the Bennitt device by incorporating the interconnected inlet valve

chambers, as taught by Leyner, in order to simultaneously supply the inlets with fluid, in a manifold manner to reduce inlet pipes and conduits to the pump device.

With respect to claims 30, and 42, in the combination above, since the valve assemblies are in the head, it is obvious that the fluid passes from the head through the valve assemblies and into the bore.

With respect to claims 31, and 43, although the Bennitt device does not disclose a biased inlet valve, Leyner and Snyder both teach normally closed spring biasing (37 and L respectively) for their inlet valves to allow the inlet valve to respond only to a predetermined elevated pressure before allowing an inlet flow of fluid. Therefore it would have been obvious to one of ordinary skill in the art at time the invention was made to further modify the Bennitt, as modified by Leyner and Snyder, in order to allow the inlet valve to respond only to a predetermined elevated pressure before allowing an inlet flow of fluid for safety and efficiency purposes.

With respect to claims 32, 37, 38, 44 and 50 it is obvious from the combination above that as the piston moves from one side to another, fluid is alternately pumped from the inlet valves in the heads (Bennitt shown in Figures 4 and 5) into the chamber for compression (Bennitt Figure 3), through the piston valves (Bennitt 46, 46a), and out the outlet port (Bennitt 52). As seen in Figure 2, the piston is attached to a rod (40) that extends into the head and bore (shown in Figures 4 and 5) for reciprocal movement.

In claims 39, 40, 51, and 52, with respect to the exact number of inlet valve assemblies, where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.

In re Swain et al., 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412; Minnesota Mining and Mfg. Co. v. Coe, 69 App. D.C. 217, 99 F.2d 986, 38 USPQ 213; Allen et al. v. Coe, 77 App. D.C. 324, 135 F.2d 11, 57 USPQ 136. The exact number of inlet valve assemblies would have been a mere design choice.

Double Patenting

5. The nonstatutory double patenting rejections of claims 29-53 are hereby withdrawn in view of applicant's submission of a Terminal disclaimer on 12/16/2004.

Response to Amendment

6. The objection to the title and the specification is hereby withdrawn in view of applicant's amendments.

7. The rejections of claims, 29-33, 36-45, and 48-53, under 35 U.S.C. 112 2nd paragraph are hereby withdrawn in view of applicants amendments.

Response to Arguments

8. Applicant's arguments filed 12/16/2004 have been fully considered but they are not persuasive. Applicant's new added limitation is taught by Leyner and using this teaching to further modify Bennitt would have been obvious. As stated above, it is evident from Leyner Figure 1, that the inlet valves (36) are contained in inlet valve chambers (34), and are interconnected by a fluid passage (26, 62) within the head (20).

In cases that the inlets receive the same fluid from a fluid source, it would have been obvious to interconnect the inlet valve chambers, as taught by Leyner in order to simultaneously supply the inlets with fluid, in a manifold manner. Therefore it would have been further obvious to modify the Bennitt device by incorporating the interconnected inlet valve chambers, as taught by Leyner, in order to simultaneously supply the inlets with fluid, in a manifold manner.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited to further show the state of the art with respect to piston pumps.

U.S. Pat. 821,299 to Lavoie.

U.S. Pat. 6,663,361 B2 to Kobl et al.

U.S. Pat. 851,248 Niebling.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

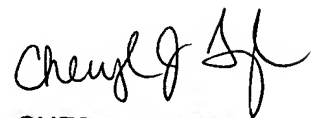
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Sayoc whose telephone number is (571) 272 4832. The examiner can normally be reached on M-F 8-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Emmanuel Sayoc
Examiner
Art Unit 3746



CHERYL TYLER
SUPERVISORY PATENT EXAMINER

ECS